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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/881,676	06/18/2001	Takashi Sasaki	209819US6	7199

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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

AGUSTIN, PETER VINCENT

ART UNIT	PAPER NUMBER
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2652

DATE MAILED: 12/18/2003

1

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/881,676

Applicant(s)

SASAKI ET AL.

Examiner

Peter Vincent M Agustin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☒ Claim(s) 10 & 11 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____.

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DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The disclosure is objected to because of the following informalities:

Page 11, lines 8 and 9: Change "diver" to --driver--.

Page 13, lines 6 and 7: Change "diver" to --driver--.

Page 13, line 10: Change "ODP1 generating circuit 52" to --EQEFM generating circuit 52--.

Page 13, lines 12 and 13: Change "I1", "I2" and "I3" to --i1--, --i2-- and --i3--,
respectively to match labels in figure 8.

Page 19, line 18: Change "the over-drive pulse" to --the end over-drive pulse--.

Page 20, line 11: Change "signals end" to --signals, end--.

Page 21, line 3: Change "different" to --difference--.

Page 24, line 5: Change "Li" to --L1--.

Page 26, last line: Change "pules" to --pulses--.

Page 27, lines 5 and 10: Change "pules" to --pulses--.

Page 29, lines 6, 9 and 13: Change "pules" to --pulses--.

Abstract, line 5: Change "o the pulse" to --of the pulse--.

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Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 10 recites the limitation "said first to third pulses" in the third line of the claim. There is insufficient antecedent basis for this limitation in parent claim 1.

5. Claim 11 recites the limitation "said third pulse" in the last line of the claim.

There is insufficient antecedent basis for this limitation in parent claim 1.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 1, 10, 11 and 12 rejected under 35 U.S.C. 102(e) as being anticipated by Nakajo (US-6504806).

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Nakajo discloses "an optical disc recording apparatus" as shown in figure 1. Figures 3 and 4 disclose "recording pulse generating means for setting a recording power at approximately the leading end portion of a recording pulse in steps of a plurality of stages" of claim 1; figures 2A and 2B disclose "for generating a recording pulse of a pulse width corresponding to a length of a pit to be formed" of claim 1. Figure 1, element 25 and column 8, lines 44-54 disclose "laser means" of claim 1; column 1, lines 15-24, column 4, line 45 and column 8, line 23 disclose "illuminated on a write-once optical disc" of claim 1. Figure 1, element 28 discloses "changeover means for switching" of claim 10. Column 7, lines 15-28 and column 9, lines 48-60 disclose "if said optical disc is rotated at a linear speed not higher than a speed four times a reference speed, said third pulse is not output" of claim 11. Figures 2A, 2B, 3 and 4 disclose "generating a recording pulse having a pulse width corresponding to a length of a pit formed, said recording pulse being so formed that a recording power at approximately the forward end thereof is stepped over plural stages" of claim 12. Figure 1, element 25, column 1, lines 15-24, column 4, line 45 and column 8, lines 23 and 44-54 disclose "illuminating a laser light beam, excited in pulsed light by said recording pulse, on a write-once optical disc" of claim 12.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2-5 and 13-16 rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajo ('806) in view of Iijima et al. (JP-01119921A).

Nakajo ('806) in the optical disk recording art, discloses all the claimed subject matter of claims 1 and 12 as noted in the 102 rejection above. Figures 3 and 4 disclose "first pulse corresponding to recording data" and "second pulse for synthesis to a leading end of said first pulse" of claims 2 and 13.

Nakajo ('806) does not disclose "third pulse for synthesis to a leading end of said first pulse, said third pulse being of a pulse width smaller than said second pulse" of claims 2 and 13. Iijima et al. in the optical disk recording art, discloses "third pulse for synthesis to a leading end of said first pulse" in figure 4, where "said third pulse being of a pulse width smaller than said second pulse" is shown by a dimension line labeled "5". The claimed "first pulse", "second pulse" and "third pulse" are labeled L₁, L₂ and L₂₂, respectively. It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to provide the "third pulse" of Iijima et al. to the apparatus of Nakajo in order to provide a more accurate pit shape and to minimize the effect of heat accumulation involved in pit production (see abstract).

Furthermore, column 5, line 10 thru column 7, line 15, including Tables 1, 2 and 3, and column 8, lines 37-44 disclose "depending on recording conditions" (claims 3 and 14) and "depending on conditions of an optical disc" (claims 5 and 16). Column 9, lines

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33-41 disclose "includes pit/land length detection means for detecting the length of the pit/land to be formed and varies the pulse width and/or the pulse level of one or more of said first to third pulses, depending on the combinations of the lengths of the pits/lands to be formed, based on a detection output by said pit/land length detection means, to generate a recording pulse" (claim 4) and "depending on different combinations of the lengths of the pits/lands formed (claim 15).

10. Claims 6-9 rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajo ('806) and Iijima et al. as applied to claim 4 above, and further in view of Nakajo (US-2002/0089914 A1).

Nakajo ('806) and Iijima et al. in the optical disk recording art, disclose all the claimed features as discussed in the 103 rejection supra, except for the claimed "recording pulse generating means variably sets the pulse width of one or more of said first to third pulses responsive to at least one of the length of the pit formed directly previously and the length of the land formed directly previously" (claim 6), "recording pulse generating means varies the pulse width of said first pulse depending on the length of a land formed directly ahead of a pit formed" (claim 7), "recording pulse generating means varies the pulse width of said first pulse depending on the length of a pit formed" (claim 8), and "recording pulse generating means varies the pulse width of said first pulse depending on a length of a land formed directly at back of a pit formed" (claim 9). Nakajo ('914) in the optical disk recording art, discloses "recording pulse generating means variably sets the pulse width of one or more of said first to third

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pulses responsive to at least one of the length of the pit formed directly previously and the length of the land formed directly previously" (see paragraphs 53-57), "recording pulse generating means varies the pulse width of said first pulse depending on the length of a land formed directly ahead of a pit formed" (see paragraphs 57 and 70-75), "recording pulse generating means varies the pulse width of said first pulse depending on the length of a pit formed" (see paragraphs 57 and 64-69), and "recording pulse generating means varies the pulse width of said first pulse depending of a length of a land formed directly at back of a pit formed" (see paragraphs 53 and 76-79). It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to provide "recording pulse generating means variably sets the pulse width of one or more of said first to third pulses responsive to at least one of the length of the pit formed directly previously and the length of the land formed directly previously", "recording pulse generating means varies the pulse width of said first pulse depending on the length of a land formed directly ahead of a pit formed", "recording pulse generating means varies the pulse width of said first pulse depending on the length of a pit formed", and "recording pulse generating means varies the pulse width of said first pulse depending of a length of a land formed directly at back of a pit formed" of Nakajo ('914) to the apparatus of Nakajo ('806) and Iijima et al. in order to provide accurate control for burning a pit of desired length and to generate a recording pulse with minimum delay error.

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Conclusion


11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shimamoto et al. (US-5218591) disclose an optical disk apparatus for shaping pits recorded on an optical disk. A light beam is projected on the recording medium to generate a heating area corresponding to the pulse pattern of the information to be recorded. The timing of the emission of the light beam is accurately controlled to ensure correct pit shape and intensity.

Fujii et al. (US-6480450) disclose a method and apparatus for recording optical information by varying recording pulse width. The pulse widths are formed based on the sizes of a set of recording pulses.

12. Any inquiry concerning this communication from the examiner should be directed to Peter Agustin whose telephone number is (703) 305-8980. The examiner can normally be reached on Monday thru Friday 9:00AM - 5:30PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3718. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Peter Vincent Agustin
11/28/2003


BRIAN E. MILLER
PRIMARY EXAMINER